

CLAIMS

1. A purified polypeptide comprising an amino acid sequence as set forth in SEQ ID NO: 3 or SEQ ID NO: 4.
2. A purified polypeptide comprising an amino acid sequence as set forth in SEQ ID NO: 3 or SEQ ID NO: 4, wherein from one to five amino acid residues have been replaced, deleted, and/or added, and wherein the polypeptide has the following characteristics (a) and (b):
 - (a) a specific activity higher than 4.0×10^8 units/mg in an anti-Sindbis virus assay on cultured FL cells; and
 - (b) an apparent molecular weight of 20 kDa-23 kDa as determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) after treatment with a reducing agent.
3. A pharmaceutical composition comprising the polypeptide of claim 1 or claim 2, and a pharmaceutically acceptable carrier or excipient.
4. The pharmaceutical composition of claim 3, which is for treatment of a viral disease.
5. The pharmaceutical composition of claim 3, which is for treatment of cancer.
6. A method for treating a viral disease in a mammal comprising administering to said mammal in need of treatment an effective amount of the polypeptide of claim 1 or 2.
7. The method of claim 6, wherein said mammal is a human.

8. A method for treating cancer in a mammal comprising administering to said mammal in need of treatment an effective amount of the polypeptide of claim 1 or claim 2.

9. The method of claim 8, wherein said mammal is a human.

10. A recombinant polypeptide produced by a process comprising:

(a) transforming a cell with an expression construct, said expression construct comprising a nucleotide sequence operably linked to a promoter, said nucleotide sequence encoding the polypeptide with an amino acid sequence as set forth in SEQ ID NO: 3 or SEQ ID NO: 4, thereby creating a transformant;

(b) culturing said transformant; and

(c) recovering expressed polypeptide.

11. A recombinant polypeptide produced by a process comprising:

(a) transforming a cell with an expression construct, said expression construct comprising a nucleotide sequence operably linked to a promoter;

said nucleotide sequence encoding the polypeptide with an amino acid sequence as set forth in SEQ ID NO: 3 or SEQ ID NO: 4, wherein from one to five amino acid residues have been replaced, deleted, and/or added, and wherein the polypeptide has the following characteristics (1) and (2):

(1) a specific activity higher than 4.0×10^8 units/mg in an anti-Sindbis virus assay on cultured FL cells; and

(2) an apparent molecular weight of 20 kDa-23 kDa as determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) after treatment with a reducing agent; thereby creating a transformant;

(b) culturing said transformant; and

(c) recovering expressed polypeptide.

12. A pharmaceutical composition comprising the recombinant polypeptide of claim 10 or claim 11, and a pharmaceutically acceptable carrier or excipient.

13. The pharmaceutical composition of claim 12, which is for treatment of a viral disease.

14. The pharmaceutical composition of claim 12, which is for treatment of cancer.

15. A method for treating a viral disease in a mammal comprising administering to said mammal in need of treatment an effective amount of the recombinant polypeptide of claim 10 or claim 11.

16. The method of claim 15, wherein said mammal is a human.

17. A method for treating cancer in a mammal comprising; administering to said mammal in need of treatment an effective amount of the recombinant polypeptide of claim 10 or claim 11.

18. The method of claim 17, wherein said mammal is a human.